LOW BACK
MUSCULOLIGAMENTOUS INJURY (SPRAIN/STRAIN)

I. BACKGROUND

Injuries to the muscles (strains) and ligaments (sprains) of the low back are a common cause of acute low back pain encountered in the general population. These injuries often are the result of the mechanical stresses and functional demands placed on the low back area by everyday activities. Symptoms are believed to be related to a partial stretching or tearing of the soft tissues (muscles, fascia, ligaments, facet joint capsule, etc.) The conditions, for the vast majority of patients, is of short duration and complete recovery is the general rule. Most patients with musculoligamentous injury to the low back recover rapidly, WITH 50% to 60% OF PATIENTS RECOVERING WITHIN ONE WEEK.

II. DIAGNOSTIC CRITERIA

A. Pertinent Historical and Physical Findings

Onset of low back pain and paraspinal muscle spasm begins either suddenly after the injury occurs or develops gradually over the next 24 hours. The pain is usually relieved by rest and aggravated by motion of the back. The pain does not radiate below the knee, and the strain is not accompanied by paresthesias or muscle weakness in the legs. Physical findings include low back tenderness to palpation, loss of normal lumbar lordosis, and spasm of the paravertebral muscles. Straight leg raising and other tests that cause spinal motion may increase low back pain. The patient may stand with a list to the side or in a flexed position. Neurologic examination and nerve root stretch test are commonly negative.

B. Appropriate Diagnostic Tests and Examinations.

Although the diagnosis of a musculoligamentous injury is not based on radiographic criteria, x-rays may be indicated in some cases.

C. Inappropriate Diagnostic Tests and Examinations during the acute phase of the first four weeks.

1. CT Scan
2. MRI
3. Bone Scan
4. Myelography in the absence of sciatica
5. EMG in the absence of abnormal neurologic findings
*6. Thermogram
*7. Evoked Potentials
*8. Myeloscopy
*9. Spinoscopy

**D. Indications For Appropriate Specialist Consultations

1. Failure of conservative treatment in four weeks.

III. TREATMENT

A. Outpatient Treatment

1. Nonoperative Treatment

a. Indications: Almost all patients with low back musculoligamentous (sprain/strain) can be treated satisfactorily. No indications exist for the use of surgery in the treatment of low back musculoligamentous injuries.

b. Treatment Options

1. Short-term bed rest for approximately 2-4 days
2. Analgesics
3. Muscle relaxants as needed
4. Anti-inflammatory nonsteroidal medication
5. Physical modalities in conjunction with progressively increasing activity and instruction in proper body mechanics and flexibility, endurance, and strength reactivation exercises.

6. Referral for physiotherapy and/or occupational therapy

a. Therapy may be initiated as early as the day of injury; indications for and focus of (early) intervention include:
* acute management of pain/spasms
* instruction in range of motion and stretching exercises
* limited use of passive modalities, except unlimited ice
* assessment of return to work readiness and identifying necessary work modifications
* patient education in healing process and body mechanics

Time Frame: May range from one visit only to 1 to 2 hours per day.

b. Expansion of therapy programs are indicated when patients do not return to work at their formal level. Exercise programs are progressively increased to include strengthening and conditioning exercises. Work simulation activities (also gradually increased) focus on essential work tasks needed, such as pushing, pulling, lifting, etc.

Time Frame: 1 to 4 hours per day, 3 to 5 days per week.

c. Progress reports to physician and employer should identify continuing deficits, progress made, further rehabilitation needs, and level of return to work readiness. A patient may continue in therapy, if indicated, after return to work at modified level.

d. Therapy evaluations must be provided by licensed physical and occupational therapists; treatments can be provided by licensed or certified PT and OT assistants

supervised by therapists, and by therapy aides as directed by therapists or physiatrists. Exercise physiologists may also be a part of the rehabilitation team.

e. Initiation of therapy intervention may not be indicated when:
* Patient has been out of work greater than 12 weeks.
* Few objectively measured deficits are found on evaluation.
* Subjective c/o pain are only finding.
* Pain behaviors are interfering with return to work process.
** Thorough evaluation and treatment planning by all parties, including a psychologist, is strongly recommended at this stage.

f. Inappropriate treatment is exclusive use of passive modalities; example - ultrasound, moist heat, muscle stimulation and traction. Generally inappropriate modality at any time is traction.

7. Manipulation of spine may provide short-term symptomatic relief
8. Occasional trigger point injections may provide symptomatic relief
9. Lumbosacral corset or brace may be used temporarily

B. Inappropriate Treatment

1. Operative treatment is inappropriate for low back strain
2. Prolonged bed rest beyond five days
3. Narcotic medication for prolonged period
4. Home traction for prolonged period of time in conjunction with bed rest

* Never appropriate
** Neurologist, Orthopedic Surgeon, Physiatrist, or Neurosurgeon

5. Inpatient treatment

C. Estimated Duration of Care: 1 to 4 weeks

D. Anticipated Outcome

1. Resumption of normal activity without residual symptoms in most cases

E. Modifiers (age, sex, and co-morbidity)

Co-morbidity (e.g., degenerative disk disease, spondylolisthesis, segmental instability, osteoporosis, spine deformity) may be associated with a higher incidence of persistent symptoms.

F. Durable Medical Equipment Guidelines for Low Back Pain

Durable Medical Equipment (DME) items may be utilized in the rehabilitation of individuals with low back pain (LBP). Items such as viscoelastic insoles have broad applicability to various LBP conditions, and may be ordered by any licensed physician or therapist. These insoles may be replaced every six months.

DME items such as lumbar orthoses may be contraindicated in certain conditions, or should be used in conjunction with a comprehensive rehabilitation program. These items should be prescribed by a specialist physician, and may include:

1) OTC LSO (abdominal support, with or without polypropylene lumbar pad)
2) Custom LSO or TLSO
3) TENS unit
4) Pelvic traction, home unit
5) Static Magnetic field (300-500 Gauss) belt

Items #1-5 are prescribed as "one-time only" devices, and multiple prescriptions for the same patient injury are not permitted. Equipment such as a hospital

bed, scooter or seat-lift chair is rarely, if ever, indicated for the patient with lumbar strain or disc herniation, and is reserved for those individuals with lumbar fracture, paraparesis, or severe cardiopulmonary disease as complications to a diagnosis of LBP.

TENS units are most often prescribed after a trial use period of one (1) to three (3) months. The rental fee is not uniformly applied to the purchase price. Prescription of a TENS unit may be completed with the following requirements:

1) The injured worker has completed a trial utilization period of not less than two months.
2) Physician has documented achieved goals of reduction in medication or procedure-related complications or side effects.
3) Functional status improvements have been documented by the clinical care provider.

NOTE: Low Back Musculoligamentous Injury (Sprain/Strain) will also include BACK SPASM, BACK SPRAIN, SUBLUXATIONS, FACET ARTHROPATHY, SPONDYLOLISTHESIS WITH NO NEUROLOGIC INVOLVEMENT, ANNULAR TEARS, MYOFASCIAL PAIN, SPINAL STENOSIS.

PROTOCOL HISTORY:
Passed: 9/01/92
Effective: 9/22/92
Revised: 5/17/93
Effective: 6/07/93
Revised: 6/09/98
Effective: 6/30/98
Revised: 11/19/02
Effective: 12/10/02